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10/768,431	01/30/2004	Deborah Lewandowski Barclay	LUC-463/Barclay 12-10-6-9	8752

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CARMEN B. PATTI & ASSOCIATES, LLC
ONE NORTH LASALLE STREET
44TH FLOOR
CHICAGO, IL 60602

EXAMINER

AJIBADE AKONAI, OLUMIDE

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/768,431	Applicant(s) BARCLAY ET AL.	
	Examiner Olumide T. Ajibade-Akonai	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-13 and 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by **O'Donnell (6,266,514)**.

Regarding **claim 1**, O'Donnell discloses an apparatus comprising: a network component (base station controller BSC, see figs. 3, lines 33-38) that employs one or more call characteristics (signal strength, see col. 6, lines 39-46) to make a determination to initiate a request for one or more positions of one or more mobile stations (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38); wherein the network component receives, in response to the request, the one or more positions of the positions of the one or more mobile stations from a position component (positioning function 8, see col. 6, lines 21-38); and wherein the position component determines the one or more positions of the one or more mobile stations continuously (the automatic mapping of areas with poor wireless coverage using mobile position information is done in real time, indicating that the processes involved in the automatic mapping, including

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the determination of the position of the mobile station is done continuously, see col. 6, lines 21-38, col. 7, lines 36-47).

Regarding **claim 2**, as applied to claim 1, O'Donnell discloses the claimed invention, in addition, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) performs a comparison of the one or more call characteristics (measurements are compared to specified threshold values, signal strength, see col. 6, lines 6-23, 39-46) with one or more thresholds (see col. 6, lines 6-23) to make the determination to initiate the request for the one or more positions of the one or more mobile stations (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

Regarding **claim 3**, as applied to claim 2, O'Donnell further discloses wherein the one or more call characteristics comprise a pilot signal strength characteristic (signal strength, see col. 6, lines 39-46), and wherein the one or more thresholds comprise a pilot signal strength threshold (see col. 6, lines 6-23), and wherein the network component (base station controller BSC, see figs. 3, lines 33-38) performs a comparison of the pilot signal strength characteristic with the pilot signal strength threshold (measurements are compared to specified signal strength threshold values, see col. 6, lines 6-23, 39-46); wherein the network component makes the determination to initiate the request for the one or more positions of the one or more mobile stations based on a result of the comparison of the pilot signal strength characteristic with the pilot signal strength threshold (BSC requests for the position of mobile station 4 if the

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signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

Regarding **claim 4**, as applied to claim 2, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) employs the one or more call characteristics (signal strength, see col. 6, lines 39-46) to create one or more call statistics (dropped calls see col. 6, lines 60-63), wherein the one or more thresholds comprise one or more call characteristic thresholds (see col. 6, lines 6-23) and one or more call statistic thresholds (accumulation of dropped calls, see col. 6, lines 60-67, col. 7, lines 1-7); wherein the network component performs a comparison of the one or more call statistics with the one or more call statistic thresholds (when dropped calls are identified, the positioning function of the BSC is activated to determine the location of the mobile station, see col. 6, lines 60-67, col. 7, lines 1-9); wherein the network component employs a comparison of the one or more call characteristics with the one or more call characteristic thresholds (measurements are compared to specified signal strength threshold values, see col. 6, lines 6-23, 39-46) and the comparison of the one or more call statistics with the one or more call statistic thresholds to make the determination to initiate the request (when dropped calls are identified, the positioning function of the BSC is activated to determine the location of the mobile station, see col. 6, lines 60-67, col. 7, lines 1-9).

Regarding **claim 5**, as applied to claim 2, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) comprises an interface (inherent since the BSC receives one or more quality characteristic threshold

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levels from the operations and management center, OMC 1, thereby requiring that the BSC have an interface to receive the threshold values from the OMC, see figs. 3 and 4, col. 3, lines 60-66), wherein the network component receives the one or more thresholds from a service provider (operations and management center, OMC 1, see figs. 3 and 4, col. 3, lines 60-66) through employment of the interface (BSC receives one or more quality characteristic threshold levels from the operations and management center, OMC 1, see figs. 3 and 4, col. 3, lines 60-66).

Regarding **claim 6**, as applied to claim 1, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) employs the determination to initiate the request to promote an avoidance of congestion in one or more cellular network communication paths (automatically mapping the areas of poor coverage helps in that minimal loading is required on the current system, see col. 7, lines 36-47).

Regarding **claim 7**, as applied to claim 6, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) makes the determination to initiate the request upon an exceedance of the one or more call characteristics relative to one or more thresholds (BSC requests for the position of mobile station 4 if the signal strength is above a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38); wherein upon the exceedance of the one or more call characteristics relative to the one or more thresholds, the network component and the position component (GPS receiver 220, see fig. 2, col. 5, line 6) cooperate to obtain the

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one or more positions of the one or more mobile stations (see col. 4, lines 66-67, col. 5, lines 1-7).

Regarding **claim 8**, as applied to claim 7, O'Donnell further discloses wherein upon a termination of the exceedance of the one or more call characteristics relative to the one or more thresholds (see col. 5, lines 33-59), the network component (base station controller BSC, see figs. 3, lines 33-38) and the position component (GPS receiver 220, see fig. 2, col. 5, line 6) cooperate to discontinue attainment of the one or more positions of the one or more mobile stations (see col. 5, lines 33-59).

Regarding **claim 9**, as applied to claim 1, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) employs the one or more call characteristics (signal strength, see col. 6, lines 39-46) to perform a selection of the one or more mobile stations from a plurality of mobile stations (mobile stations 4 transmit signal quality measurements to the BSC and if the measured signal strength is below of above a threshold value, the BSC identifies the location of the associated mobile station 9, see figs. 3 and 4, col. 6, lines 6-23), wherein the network component employs the selection to formulate the request for the one or more positions of the one or more mobile stations from the plurality of mobile stations (see figs. 3 and 4, col. 6, lines 6-23).

Regarding **claim 10**, as applied to claim 1, O'Donnell further discloses wherein the one or more mobile stations (mobile stations 4, see fig. 3, col. 6, line 11) are associated with one or more cellular network cells (see col. 5, lines 60-67, col. 6, lines 1-5); wherein the network component (base station controller BSC, see figs. 3, lines 33-

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38) employs the one or more call characteristics (signal strength, see col. 6, lines 39-46) to perform a selection of the one or more cellular network cells from a plurality of cellular network cells (mobile stations 4 transmit signal quality measurements to the BSC and if the measured signal strength is below of above a threshold value, the BSC identifies the location of the associated mobile station 9, see figs. 3 and 4, col. 5, lines 60-67, col. 6, lines 1-23); wherein the network component employs the selection to formulate the request for the one or more positions of the one or more mobile stations that are associated with the one or more cellular network cells (see figs. 3 and 4, col. 6, lines 6-23).

Regarding **claim 11**, as applied to claim 10, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) employs a switch component (mobile switching center MSC, see col. 5, lines 40-42) to identify the one or more mobile stations that are associated with the one or more cellular network cells (see col. 5, lines 32-49); wherein the network component employs the switch component to determine the one or more positions of the one or more mobile stations that are associated with the one or more cellular network cells (see col. 5, lines 32-49).

Regarding **claim 12**, as applied to claim 1, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) receives the one or more positions of the one or more mobile stations in response to the request (mobile station transmits location information to the BSC, see figs. 3 and 4, col. 6, lines 24-28); wherein the network component employs the one or more positions of the one or more mobile stations and the one or more call characteristics to develop a coverage

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map (the determined geographical can be mapped to provide a visual representation of areas wit poor coverage, see col. 4, lines 45-52).

Regarding **claim 13**, as applied to claim 1, O'Donnell further discloses a switch component (mobile switching center MSC, see col. 5, lines 40-42) that provides the one or more call characteristics (signal strength, see col. 6, lines 39-46) to the network component (base station controller BSC, see figs. 3, lines 33-38), wherein the network component employs the one or more call characteristics to make a determination to initiate a request to the switch component (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38); wherein the switch component obtains the one or more positions of the one or more mobile stations based on the request to the switch component (see col. 5, lines 33-49).

Regarding **claim 16**, as applied to claim 13, O'Donnell further discloses wherein the network component (base station controller BSC, see figs. 3, lines 33-38) and the switch component (mobile switching center MSC, see col. 5, lines 40-42) receive the one or more positions of the one or more mobile stations from the position component (the MSC and BSC receive the current location of the mobile station, see col. 5, lines 33-49, col. 6, lines 38); wherein the network component and the switch component cooperate to develop a coverage map through employment of the one or more positions of the one or more mobile stations (see col. 5, lines 49-52, col. 6, lines 32-38).

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Regarding **claim 17**, as applied to claim 16, O'Donnell further discloses wherein the position component (GPS 220, see fig. 2, col. 5, line 6) employs one or more of an Enhanced Forward Link Trilateration algorithm and an 1S-80I solution using an Assisted Global Positioning System (AGPS), Advanced Forward Link Trilateration (AFLT) or combined AGPS/MLT algorithm to determine the one or more positions of the one or more mobile stations (the position of the mobile station can be determined using the GPS receiver in the mobile station or by employing triangulation, see col. 5, lines 2-19, col. 6, lines 24-32).

Regarding **claim 18**, O'Donnell further discloses a method, comprising the steps of: initiating a request for one or more positions of one or more mobile stations through employment of one or more call characteristics (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38); receiving, in response to the request, the one or more positions of the one or more mobile stations (see col. 6, lines 21-38); and determining the one or more positions of the one or more mobile stations continuously (the automatic mapping of areas with poor wireless coverage using mobile position information is done in real time, indicating that the processes involved in the automatic mapping, including the determination of the position of the mobile station is done continuously, see col. 6, lines 21-38, col. 7, lines 36-47).

Regarding **claim 19**, as applied to claim 18, O'Donnell further discloses wherein the step of initiating the request for the one or more positions of the one or more mobile

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stations through employment of the one or more call characteristics comprises the steps of: performing a comparison of the one or more call characteristics with one or more thresholds (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

, and initiating the request for the one or more positions of the one or more mobile stations based on the comparison (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

Regarding **claim 20**, as applied to claim 19, O'Donnell further discloses wherein the step of initiating the request for the one or more positions of the one or more mobile stations based on the comparison comprises the steps of: determining one or more call parameters (BSC compiles the mobile station identification, see col. 6, lines 32-35) associated with the one or more thresholds (see col. 6, line 32-38), identifying the one or more mobile stations from a plurality of mobile stations through employment of the one or more call parameters (see col. 6, line 32-38); and initiating the request for the one or more positions of the one or more mobile stations through employment of the one or more call parameters (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

Regarding **claim 21**, O'Donnell further discloses an article, comprising: one or more computer-readable signal-bearing media (Base station controller BSC, see col. 5, lines 33-38); means in the one or more media for initiating a request for one or more

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positions of one or more mobile stations through employment of one or more call characteristics (BSC requests for the position of mobile station 4 if the signal strength falls below a specified threshold value, see figs. 3 and 4, col. 6, lines 6-38).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Donnell (6,266,514)** in view of **Jeong (20050119013)**.

Regarding **claim 14**, as applied to claim 13, O'Donnell discloses the claimed invention except wherein the network component provides to the switch component one or more call parameters; wherein the switch component employs the one or more call parameters to perform an identification of the one or more mobile stations from a plurality of mobile stations wherein the switch component employs the identification of the one or more mobile stations from the plurality of mobile stations to obtain the one or more positions of the one or more mobile stations.

In the same field of endeavor, Jeong teaches wherein the network component (BSC 30, see fig. 1, p.2, [0026]) provides to the switch component (MSC/VLR_1, see fig. 8, p.4, [0048]) one or more call parameters (see fig. 8, p.4, [0048]); wherein the switch component employs the one or more call parameters (phone number of mobile station MS_2, see fig. 8, p.4, [0048]-[0050]) to perform an

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identification of the one or more mobile stations from a plurality of mobile stations (see figs. 1 and 8, p.4, [0048]), wherein the switch component employs the identification of the one or more mobile stations from the plurality of mobile stations to obtain the one or more positions of the one or more mobile stations (the MSC/VLR_1 utilizes the phone number to determine the location of MS_2, see fig. 8, p.4, [0050]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Jeong into the system of O'Donnell for the benefit of reducing the loads in the Home Locator Register.

Regarding **claim 15**, as applied to claim 14, the combination of O'Donnell and Jeong disclose the claimed invention.

O'Donnell fails to disclose wherein the one or more mobile stations are associated with one or more calls; wherein the switch component employs the one or more call parameters to perform an identification of the one or more calls from a plurality of calls, wherein the switch component employs the identification of the one or more calls from the plurality of calls to obtain the one or more positions of the one or more mobile stations that are associated with the one or more calls.

Jeong, however, further discloses wherein the one or more mobile stations (MS_1 and MS_2, see p.4, [0048]) are associated with one or more calls; wherein the switch component (MSC/VLR_1, see fig. 8, p.4, [0048]) employs the one or more call parameters (phone number of mobile station MS_2, see fig. 8, p.4, [0048]-[0050]) to perform an identification of the one or more calls from a plurality of calls (see figs. 1 and 8, p.4, [0048]-[0050]), wherein the switch component employs the identification of the

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one or more calls from the plurality of calls to obtain the one or more positions of the one or more mobile stations that are associated with the one or more calls (the MSC/VLR_1 utilizes the phone number to determine the location of MS_2, see fig. 8, p.4, [0050]).

It would therefore have been obvious to one of ordinary skill in the art to further modify the combination of O'Donnell and Jeong for the benefit of connecting a call.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Donnell (6,266,514)** in view of **Alperovich et al 6,233,448 (hereinafter Alperovich)**.

Regarding **claim 22**, as applied to claim 16, O'Donnell discloses the claimed limitation except wherein the position determination component is pre-provisioned with one or more intervals of time to determine the one or more positions of the one or more mobile stations.

Alperovich, however, discloses a position determination component that is pre-provisioned with one or more intervals of time to determine the one or more positions of the one or more mobile stations (see fig. 1, col. 3, lines 29-64).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Alperovich into the system of O'Donnell for the benefit of determining the current position of a mobile station.

Response to Arguments

7. Applicant's arguments filed January 20, 2006 have been fully considered but they are not persuasive.

Regarding claims 1 and 18, the examiner disagrees with the applicant's remarks as the applied reference (O'Donnell) provides more than adequate support. O'Donnell discloses the automatic mapping of areas with poor wireless coverage using mobile position information is done in real time, indicating that the processes involved in the automatic mapping, including the determination of the position of the mobile station is done continuously (see col. 6, lines 21-38, col. 7, lines 36-47). This clearly reads on the claimed limitation "wherein the network component receives, in response to the request, the one or more positions of the positions of the one or more mobile stations from a position component; and wherein the position component determines the one or more positions of the one or more mobile stations continuously". Claims 1-22 thus stand rejected.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Davis et al (6,799,016) discloses a method for mapping poor coverage areas.

Schipper et al (6,038,444) discloses a method and apparatus for advising cellphone users of possible actions to avoid dropped calls.

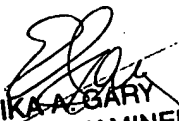
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olumide T. Ajibade-Akonai whose telephone number is 571-272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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ERIKA AZGARY
PRIMARY EXAMINER